

1/25

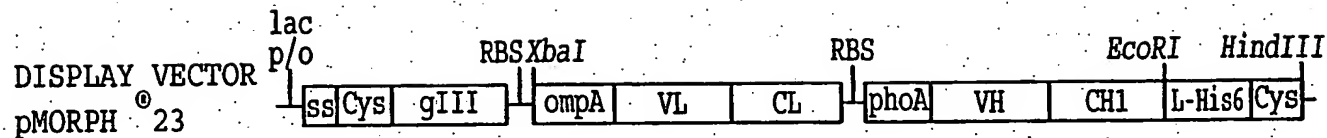


FIG. 1

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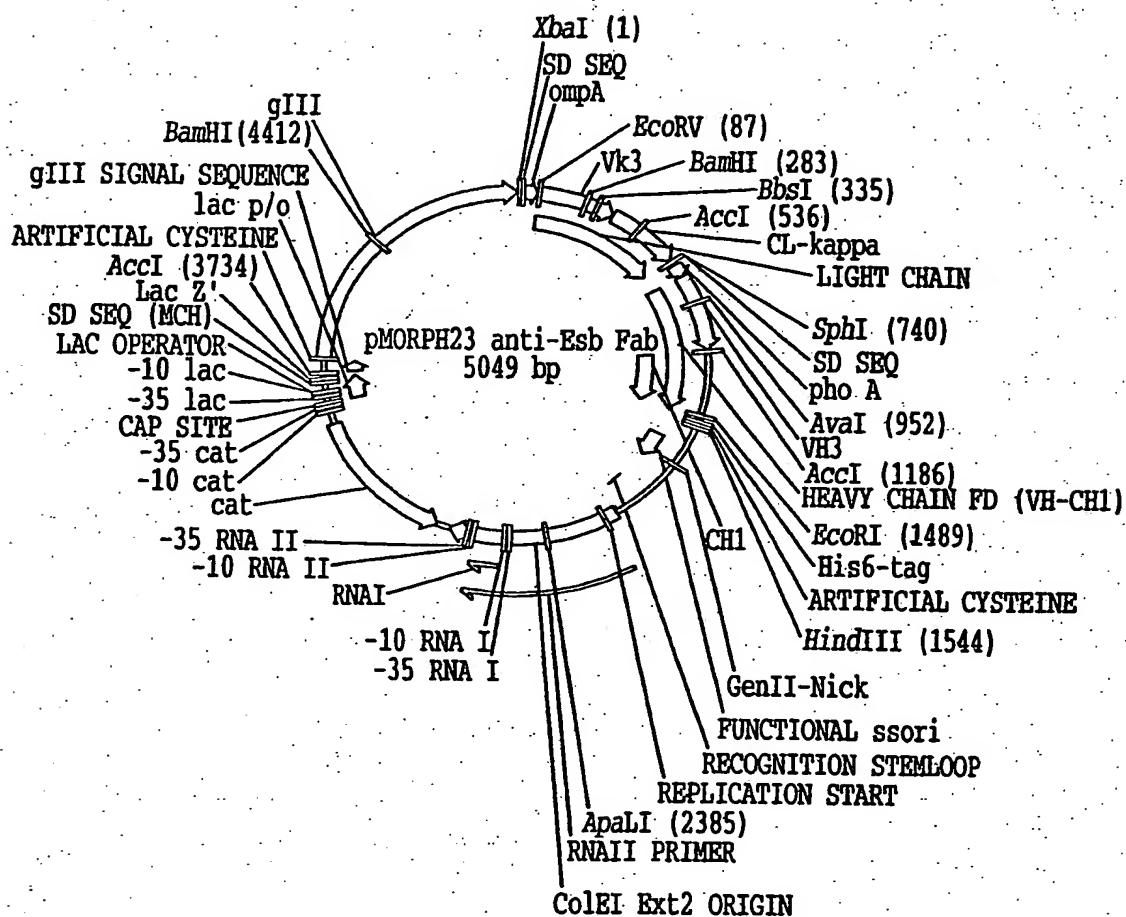


FIG. 2A

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XbaI

 1 CTAGATAACG AGGGCAAAAA ATGAAAAAGA CAGCTATCGC GATTGCAGTG GCACTGGCTG GTTTCGCTAC CGTAGCGCAG GCCGATATCG TGCTGACCCA
 GATCTATTCG TCCCGTTTTT TACTTTTTCT GTGATAGCGC CTAACGTCAC CGTGACCGAC CAAAGCGATG GCATCGCGTC CGGCTATAGC ACGACTGGGT
 101 GAGCCCCGGG ACCCTGAGCC TGTCTCCGGG CGAACGTGGC ACCCTGAGCT GCAGAGCGAG CCAGTCTGTT TCTCGTTCTT ATCTGGCTTG GTACCAAGCAG
 CTCGGGCGCG TGGGACTCGG ACAGAGGCCG GCTTGCACGC TGGGACTCGA CGTCTCGCTC GGTGAGACAA AGAGCAAGAA TAGACCGAAC CATGGTGGTC
 201 AAACCAGGTC AAGCACCOCG TCTATTAAAT TATGGTGTCT CTCGTCGTGC AACTGGGGTC CCGGCGCGTT TTAGCGGCTC TGGATCCGGC ACGGATTTTA
 TTTGGTCCAG TTCGTGGCGC AGATAATTAA ATACCACGAA GAGCAGCAGC TTGACCCCGAG GCGCGCGCAA AATCGCCGAG ACCTAGGCGG TGCCTAAAAAT
 BbsI MscI

 301 CCCTGACCAT TAGCAGCCTG GAACCTGAAG ACTTTGCGAC TTATTATTGC CAGCAGCGTG GTAATTATTC TATTACCTTT GGCCAGGGTA CGAAAGTTGA
 GGGACTGGTA ATCGTCGGAC CTTGGACTTC TGAACCGCTG AATAATAACG GTGTCGCGAC CATTAATAAG ATAATGGAAA CCGGTCCCAT GCTTTCAACT
 BsiNI

 401 AATTAAACGT ACGGTGGCTG CTCGAGCGGT GTTTATTTTT CGCGCGAGCG ATGAACAACT GAAAAGCGGC ACGGCGAGCG TGGTGTGCTT GCTGAACAAC
 TTAATTGCGA TGCCACCGAC GAGGCTCGCA CAAATAAAAA GGCGGCTCGC TACTTGTGTA CTTTTCGCGC TGCGGCTCGC ACCACACGGA CGACTTGTG
 501 TTTTATCCGC GTGAAGCGAA AGTTCACTGG AAAGTAGACA ACGCGCTGCA AAGCGGCAAC AGCCAGGAAA CGGTGACCGA ACAGGATAGC AAAGATAGCA
 AAAATAGGCG CACTTCGCTT TCAAGTCACC TTTTCATCTG TCGCGGAGCT TTGCGGCTTG TCGGTCCTTT CGCACTGGCT TGCTCTATCG TTTCTATCT
 601 CCTATTCTCT GAGCAGCACC CTGACCCCTG GCAAAGCGGA TTATGAAAAA CATAAAGTGT ATGCGTGGCA AGTGACCCAT CAAGGTCTGA CGAGCCCGGT
 GGATAAGAGA CTCGTCGTGG GACTGGGACT CGTTTCGCTT AATACTTTTT GTATTTCACA TACGCAAGCT TCAGTGGGTA GTTCCAGACT CGTGGGCGCA
 HincII for 100.0%

 StuI SphI

 SspI

 HincII Primer #1 100.0%

 701 GACTAAATCT TTTAATCGTG GCGAGGCTTG ATAAGCATGC GTAGGAGAAA ATAAATGAA ACAAGCACT ATTGCACCTG CACTCTTACC GTTGCTCTTC
 CTGATTTAGA AAATTAGCAC CGCTCCGGAC TATTCTGACG CATCTCTTTT TATTTTACTT TGTTCGTGA TAACGTGACC GTGAGAAATG CAACGAGAAG
 HincII for 100.0% MfeI

 801 ACCCTGTGTA CCAAAGCCCA GGTGCAATTG GTGGAAGCG CGCGCGGCTT GGTGCAACCG GCGGCGAGCC TGGGTCTGAG CTGGGCGGCC TCCGGATTTA
 TGGGACAAAT GGTTCGGGT CCAGGTAAAC CACCTTTCCG CGCGCGCGGA CCAGGTTCGC CGCGGCTCGG ACGCAGACTC GAGCGCGCGG AGGCTAAAT
 901 CCTTTCTTTC TTATGGTGGT AATTGGGTGC GCAAGGCCCG TGGGAAGGGT CTCGAGTGGG TGAGGGGTAT CCATTATTTCT GGTAGCTCTA CCTATTATGC
 GGAAGAAG AATACCACCA TTAACCCACG CGGTTCGGGG ACCCTTCCCA GAGCTCACC ACTCGCCATA GGTAATAAGA CCATCGAGAT GGATAATAGC
 1001 GGATAGCGTG AAAGGCGGTT TTAACATTTT ACGTGATAAT TCGAAAAACA CCTGTATCT GCAAATGAAC AGCCTGGGTG GGAAGATAC GCGCGTGTAT
 CCTATGCGAC TTTCCGGCAA AATGGTAAAG TGCACATTA AGCTTTTGT GGGACATAGA CGTTTACTTG TCGGAGGCAC GCCTTCTATG CCGGCACATA
 SalI

 BssHI SspI

 Styl BspI

 1101 TATTGCGCGC GTGCTCTTCA TAAGTGGGCT GGTTCGGGTT TTGATCATTG GGGCCAAGGC ACCCTGGTGA CGGTAGCTC AGGTTGAGC AAAGTCCAA
 ATAACGCGCG CACGAGAAGT ATTCACCCGA CCAACCCCAA AACTAGTAAC CCGGTTTCGG TGGGACCACT GCCAATCGAG TCGCAGCTGG TTTCCAGGTT
 1201 GCGTGTTCCT GCTGGCTCCG AGCAGCAAAA GCACACGGG CGGACGGCT GCCTGGGTAA AGATTATTTT CCGGAACCG TCACCTGAG
 CGCACAAAGG CGACCGAGGC TCGTCGTTTT CGTGGTCCGC GCGGTGCCGA CCGGACCGA CGGACCAATT TCTAATAAAG GGCCTTGGTC AGTGGCCTC
 1301 CTGGAACAGC GGGGCGCTGA CCAGCGGCGT GCATACCTTT CCGCGGCTGC TGCAAAGCAG CGGCTGTAT AGCCTGAGCA GCGTGTGAC CGTCCGAGC
 GACCTTGTGC CCCCGCGACT GGTGCGCGCA CGTATGGAAA GGCGGCCAGC ACGTTTCGTC GCGGACATA TCGGACTGCT CGCAACACTG GCAAGGCTCG
 EcoRI

 1401 AGCAGCTTAG GCACTCAGAC CTATATTGTC AACGTGAACC ATAAACCGAG CAACACCAA GTGGATAAAA AAGTGAACCC GAAAGCGAA TTCACAGGG
 TCGTCAATC CCGTGGCTG GATATAAAGC TTGCACTTGG TATTGGCTC GTTGTGTTT CACCTATTTT TTCACCTTGG CTTTTCGCTT AAGGGTCCCG
 BssHI

 AscI HindIII

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EucAL rev 100.04
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CCTCGCCTCC GCGCGCGGTG GTAGTAGTGG TAGTGACGAC TATTGCAACT GGACACTTCA CTTTTTACCG CGTCTAACAC GCTGTAAAAA AAACAGACGG
1601 GTTTAATGAA ATTGTAAACG TTAATATTTT GTTAAATTC GCGTTAAATT TTGTGTAAAT CAGCTCAFTT TTTAACCAAT AGGCCGAAAT CGGCAAAATC
CAAATTACTT TAACATTTGC AATTATAAAA CAATTTTAAG CGCAATTTAA AAACAATTTA GTGAGTAAA AAATTTGGTTA TCGGCTTTTA GCGGTTTTAG
1701 CCTTATAAAT CAAAGAATA GACCGAGATA GGGTTGAGTG TTGTTCAGT TTGGAACAAG AGTCCACTAT TAAAGAACGT GGACTCCAAC GTCAAAAGGC
GGAATATTTA GTTTTCTTAT CTGGCTCTAT CCCAACTCAC AACAGGTCA AACCTTGTTC TCAGGTGATA ATTTCTTGA CTTGAGGTG CAGTTTCCCG
1801 GAAAAACCGT CTATCAGGCG GATGGCCAC TACGAGAACC ATCACCCTAA TCAAGTTTTT TGGGGTCGAG GTGCCGTAAA GCACTAAATC GGAACCCCTAA
CTTTTGGCA GATAGTCCCG CTACCGGGTG ATGCTCTTGG TAGTGGGATT AGTTCAAAAA ACCCCAGCTC CACGGCATTT CGTGATTAG CCTGGGATT
1901 AGGGAGCCCC CGATTAGAG CTGACGGGG AAAGCCGGCG AACGTGGCGA GAAAGGAAGG GAAGAAAGCG AAAGGAGCGG GCGCTAGGCG GCTGGCAAGT
TCCCTCGGGG GCTAAATCTC GAAGTGGCGG TTTCGGCGCG TTGCACCGCT CTTTCTTCC CTTCTTTCG TTTCTCGCC CGGATCCCG CGACCGTTCA
NheI

2001 GTAGCGGTCA CGCTGCGGT AACCACCACA CCGCGCGCG TTAATGCGCC GCTACAGGCG CGGTGCTAGC CATGTGAGCA AAAGGCGAG AAAAGGCCAG
CATCGCCAGT GCGAGCGGCA TTGGTGGTGT GGGCGGCGCG AATTACGCGG CGATGTCCCG CGCAGGATCG GTACACTCGT TTTCCGGTCC TTTTCCGGTC
2101 GAACCGTAAA AAGCGCGGT TGTGCGGT TTTCATAGG CTCGCGCCCC CTGACGAGCA TCACAAAAAT CGAGCTCAA GTGAGAGTG GCGAAACCG
CTTGGCATTT TTCCGGGCGA ACGACGCGAA AAGGTATCC GAGCGGGGG GACTGCTCGT AGTGTTTTA GCTGCGAGTT CAGTCTCCAC CGCTTGGGC
2201 ACAGGACTAT AAAGATACCA GCGTTCCTCC CCTGGAAGCT CCTCGTGGC CTCTCTGTT CCGACCTGCG CGCTTACCG ATACCTGTC GCCTTCTCC
TGTCTGATA TTTCTATGTT CCGCAAGGG GGACCTTCGA GGGAGCACCG GAGAGGACAA GGCTGGGAGG GCGAATGGCC TATGGACAGG CGGAAAGAGG
2301 CTTGCGGAAG CGTGGCGCTT TCTCATAGCT CACGCTGTAG GTATCTCAGT TCGGTGTAGG TCGTTGCTC CAAGCTGGG TGTGTGACG AACCCCGGT
GAAGCCCTTC GCACCGCGAA AGAGTATCGA GTGCGACATC CATAGAGTCA AGCCACATCC AGCAAGCGAG GTTCGACCCG ACACAGCTGG TTGGGGGCA
2401 TCAGTCCGAC CGTTCGCGCT TATCCGGTAA CTATCGTCTT GAGTCCAACC CGGTAAAGCA CGACTTATCG CCACTGGCAG CAGCCACTGG TAACAGGATT
AGTCAGGCTG GCGAGCGGGA ATAGGCCATT GATAGCAGAA CTCAGGTGG GCCATCTGT GCTGAATAGC GGTGACCGTC GTGCGTGACC ATTGTCTTAA
2501 AGCAGAGCGA GGTATGTAGG CGGTGCTACA GAGTCTTGA AGTGGTGGC TAACTACGGC TACACTAGAA GAACAGTATT TGGTATCTGC GCTCTGCTGT
TCGTCTCGCT CCATACATCC GCCACGATGT CTCAAGAACT TCACCACCGG ATTGATGCGG ATGTGATCTT CTTGTCTATA ACCATAGAGG CGAGACGACA
2601 AGCCAGTTAC CTTGCGAAAA AGAGTTGGTA GCTCTGATC CGGCAACAA ACCACCGCTG GTAGCGGTGG TTTTGTGTT TGCAAGCAGC AGATTACGG
TCGTCAATG GAAGCCTTTT TCTCAACCAT CGAGAAGTAG GCGTGTGTT TGTGGCGAC CATCGCCACC AAAAAACAA AGCTTGTGTG TCTAATGCGC
BglII

2701 CAGAAAAAAA GGATCTCAAG AAGATCCTTT GATCTTTTCT ACGGGGCTG ACGCTCAGTG GAACGAAAA TCAGGTTAAG GGATTTGGT CAGTCTAGC
GTCTTTTTTT CCTAGAGTTC TTCTAGGAAA CTAGAAAAA TGCCCCAGAC TCGAGCTCAC CTGCTTTTGT AGTGCAATTC CTTAAAAACA GCTAGATCG
2801 ACCAGCGGTT TAAGGGCACC AATACTGCC TTAATAAAT TACGCCCGC CTGCCACTC ATCGCAGTAC TGTGTATATT CATTAAGCAT GTTGGCGACA
TGGTCCGCAA ATCCCGGTGG TTATTGACGG AATTTTTTTA ATGCGGGCG GGAAGGTGAG TAGCGTCATG ACAACATTAA GTAATTGTA AGACGGCTGT
2901 TGGAAGCCAT CACAAACGGC ATGATGAACC TGAATCGCCA GCGGCATCAG CACCTTGTG CCTTGGGTAT AATATTGGC CATAGTAAA ACGGGGCGA
ACCTTCGGTA GTGTTTCCG TACTACTTG ACTTAGCGGT CGCGTAGTC GTGGAACAGC GGAACGCATA TTATAAACG GTATCACTTT TCGCCCGCT
3001 AGAAGTGTG CATATTGGCT ACGTTTAAAT CAAAAGTGGT GAAACTCACC CAGGGATTG CTGAGACGAA AAACATATTC TCAATAAAC CTTTAGGGAA
TCTTCAACAG GTATAACCGA TGCAAAATTA GTTTTGACCA CTTTGAGTGG GTCCCTAAC GACTCTGCTT TTTGTATAAG AGTTATTGG GAAATCCCTT
3101 ATAGGCCAGG TTTTCACCGT AACACGCCAC ATCTTGCGAA TATATGTGTA GAAACTGCG GAAATCGTG TGGTATTAC TCAGAGCGA TGAACCGTT
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3201 TCAGTTTGCT CATGAAAAAC GGTGTAACAA GGGTGAACAC TATCCCATAT CACCACTCA CCGTCTTTCA TTGCCATAG GAACTCGGG TGAGCATTC
AGTCAAAACG GTACCTTTTG CCACATTTGT CCCACTGTG ATAGGCTGATA GTGCTGAGT GGCAGAAAGT AACGGTATG CTTGAGGCC ACTCGTAACT
3301 TCAGGCGGGC AAGAATGTGA ATAAAGGCG GATAAACTT GTGCTTATTT TTCTTTACGG TCTTTAAAAA GCGCGTAATA TCAGCTGAA GGTCTGGTT
AGTCCGCCCC TTCTTACACT TATTTCCGCG CTATTTTGAA CACGAATAAA AAGAAATGCC AGAAATTTTT CCGGCATTAT AGGTGCACTT GCGAGACCAA
3401 ATAGGTACAT TGAGCAACTG ACTGAAATGC CTCAAAATGT TCTTTACGAT GCCATTGGGA TATATCAAG GTGGTATATC CAGTGATTTT TTTCTCCATT
TATCCATGTA ACTCGTTGAC TGACTTTAGC GAGTTTTTACA AGAAATGCTA CCGTAACCT ATATAGTTG CACCATATG GTCATAAAA AAAGAGGTAA
AatII

3501 TTAGCTTCCT TAGTCTCTGA AAATCTCGAT AACTCAAAAA ATACGCCCGG TAGTGATCTT ATTTCAATTAT GGTGAAAGTT GGAACCTCAC CGAGCTCTA
AATCGAAGGA ATCGAGGACT TTTAGAGCTA TTGAGTTTTT TATGCGGGCC ATCACTAGAA TAAAGTAATA CCACCTTCAA CTTGGAGTG GGTGCGAGT
ML3 rev 100.04

FIG. 2B-2

SUBSTITUTE SHEET (RULE 26)

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3601 ATGTGAGTTA GCTCACTCAT TAGGCACCCC AGGCTTTACA CTTTATGCTT CCGGCTCGTA TGTGTGTGG AATTGTGAGC GGATAACAAT TTCACACAGG
TACACTCAAT CGAGTGAGTA ATCCGTGGGG TCCGAAATGT GAAATACGAA GGCCGAGCAT ACAACACACC TTAACACTCG CTTATTGTTA AAGTGTGTC
M13 rev 100.04

3701 AAACAGCTAT GACCATGATT ACGAATTTCT AGTATACGAG GGCAAAAAT GAAAAAAGT CTGTTCCGGA TTCCGCTGGT GGTCGGTTC TATAGCCATA
TTTGTGATA CTGTTACTAA TGCTTAAAGA TCATATGCTC CCGTTTTTIA CTTTTTTGAC GACAAGCGCT AAGGCGACCA CCACGGCAAG ATATCGGTAT
3801 GCGACTACTG CGACATCGAG TTTGCAGAAA CAGTTGAAAG TTGTTTAGCA AAACCCATA CAGAAAATTC ATTTACTAAC GTCTGGAAAG ACGACAAAAC
CGCTGATGAC GCTGTAGCTC AAACGTCCTT GTCAACTTTC AACAAATCGT TTTGGGGTAT GTCTTTTAAG TAAATGATTG CAGACCTTTC TGCTGTTTTG
3901 TTTAGATCGT TAGGCTAACT ATGAGGGCTG TCTGTGGAAT GCTACAGGCG TTGTAGTTTG TACTGGTGAC GAAACTCAGT GTTACGGTAC ATGGGTYOCT
AAATCTAGCA ATGCGATTGA TACTCCCGAC AGACACCTTA CGATGTCCGC AACATCAAC ATGACCACTG CTTTGAGTCA CAATGCCATG TACCCAAGGA
4001 ATTGGGCTTG CTATCCCTGA AAATGAGGGT GGTGGCTCTG AGGGTGGCGG TTCTGAGGGT GGGGCTCTG AGGGTGGCGG TACTAAACCT CCTGAGTACG
TAACCCGAAC GATAGGGACT TTTACTCCCA CCACCGAGAC TCCCACCGCC AAGACTCCCA CCGCCGAGAC TCCCACCGCC ATGATTTGGA GGACTCATGC
4101 GTGATACACC TATTCGGGGC TATACCTTATA TCAACCTCT CTACGGCACT TATCCGCTG GTACTGAGCA AAACCCCGCT AATCTTAATC CTTCTCTTGA
CACTATGTGG ATAAGGCCCG ATATGAATAT AGTTGGGAGA GCTGCCGTGA ATAGGCGGAC CATGACTCGT TTTGGGGCGA TTAGGATTAG GAAGAGAACT
4201 GGAGTCTCAG CTTCTTAATA CTTTCATGTT TCAGAATAAT AGGTTCCGAA ATAGGCGAGG GGCATTAATC GTTTATACGG GCACGTGTAC TCAAGGCACT
CCTCAGAGTC GGAGAATTAT GAAAGTACAA AGTCTTATTA TCCAAGGCTT TATCCGTCCC CGTAAATTGA CAAATATGCC CGTGACAATG AGTTCGGTGA
4301 GACCCCGTTA AAACCTTATTA CCAGTACACT CCTGTATCAT CAAAGCCAT GTATGACGCT TACTGGAAAG GTAAATTCAG AGACTGGCT TCCATTCTG
CTGGGGCAAT TTTGAATAAT GGTCACTGTA GGACATAGTA GTTTTCGTA CATACTGGA ATGACCTTGC CATTTAAGTC TCTGACCGA AAGGTAAAGAC
4401 GCTTTAATGA GGATCCATTC GTTTGTGAAT ATCAAGGCCA ATGCTCTGAC CTGCTCAAC CTCTGTCAA TGCTGGCGG GGTCTGTGG GTGGTCTGG
CGAAATTAAT CTTAGGTAAG CAAACACTTA TAGTTCCGGT TAGCAGACTG GACCGAGTTG GAGGACAGTT ACGACGCGG CCGAGACCA CACCAAGACC
4501 TGGCGGCTCT GAGGGTGGCG GCTCTGAGGG TGGCGGTCTT GAGGGTGGCG GCTCTGAGGG TGGCGGTCTT GGTGGCGGT CCGGTTCGG TGATTTTGAT
ACCGCCGAGA CTCCACCGC CGAGACTCCC ACCGCCAAGA CTCCACCGC CGAGACTCCC ACCGCCAAG CCACCGCGA GGCCAAGGCC ACTAAACTA
4601 TATGAAAAA TGGCAACGC TAATAAGGGG GCTATGACCG AAAATGCGA TGAACCGG CTACAGTCTG ACGCTAAAG CAACTTGAT TCTGTGCTA
ATACTTTTTT ACCGTTTGG ATATTTCCC CGATAGTGG TTTTACGGT ACTTTTGCC GATGTCAGAC TGGGATTTCC GTTTGAACTA AGACAGGAT
4701 CTGATTACGG TGCTGCTATC GATGGTTTCA TTGGTGAGCT TTCCGGCTT GCTAATGGTA ATGGTGCTAC TGGTATTTT GCTGGCTCTA ATTCCCAAT
GACTAATGCC ACGACGATAG CTACCAAGT AACCACTGCA AAGGCCGAA CGATTACCAT TACCAGATG ACCACTAAAA CGACCGAGAT TAAGGGTTTA
4801 GGCTCAAGTC GGTGACGGTG ATAATTACCC TTTAATGAAT AATTTCCGTC AATATTTACC TTCTTTGCTT CAGTCCGTTG AATGTCGCCC TTAGTCTTT
CCGAGTTCAG CCACTGCCAC TATTAAGTGG AAATTACTTA TTAAAGGCAG TTATAAATGG AAGAAACGGA GTACGCCAAC TTACAGGGG AATACAGAAA
4901 GCGGCTGGTA AACCATATGA ATTTTCTATT GATTGTGACA AAATAAACTT ATTCGCTGGT GTCTTTTCTA TGTGCCACC TTTATGTATG
CCGCGACCAT TTGGTATACT TAAAAGATAA CTAACACTGT TTTATTTGAA TAAGGCACCA CAGAAACGCA AAGAAATAT ACAACGGTGG AAATACATAC

XbaI

AflII

5001 TATTTTCGAC GTTTGCTAAC ATACTGCGTA ATAAGGAGTC TTAAGTAAT
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FIG. 2B-3

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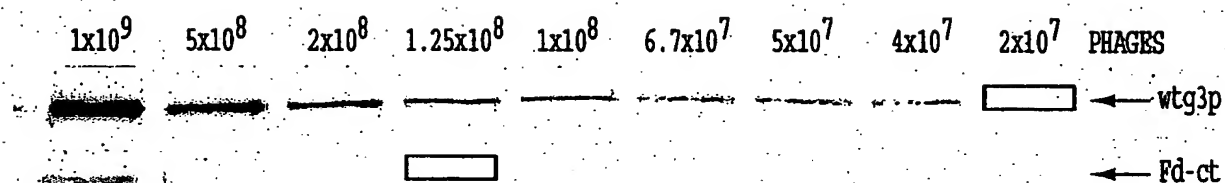


FIG. 3

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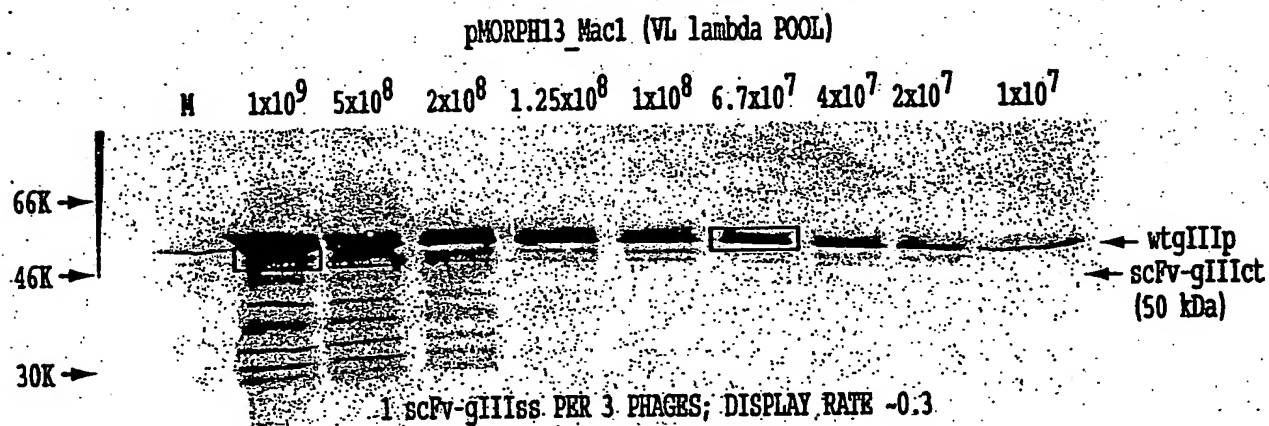


FIG. 4A

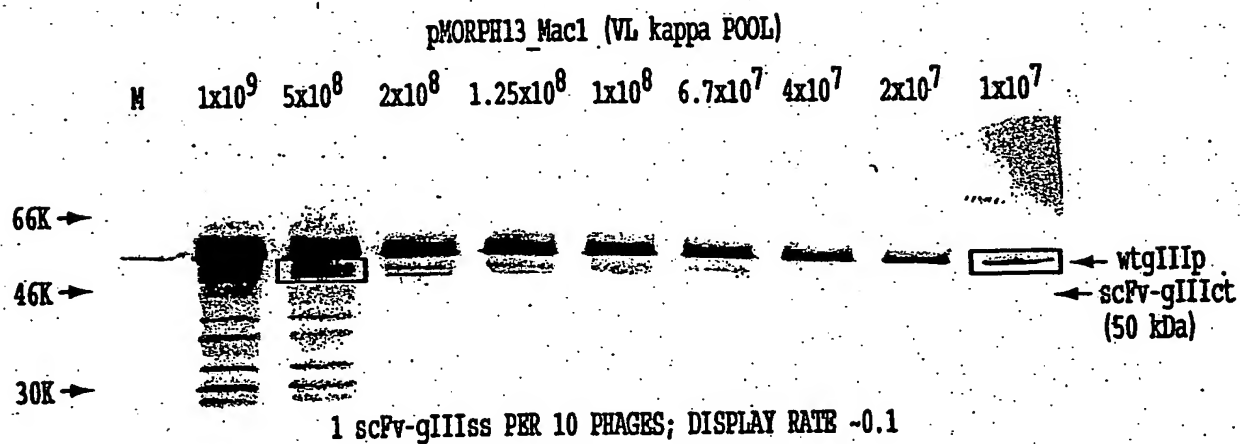


FIG. 4B

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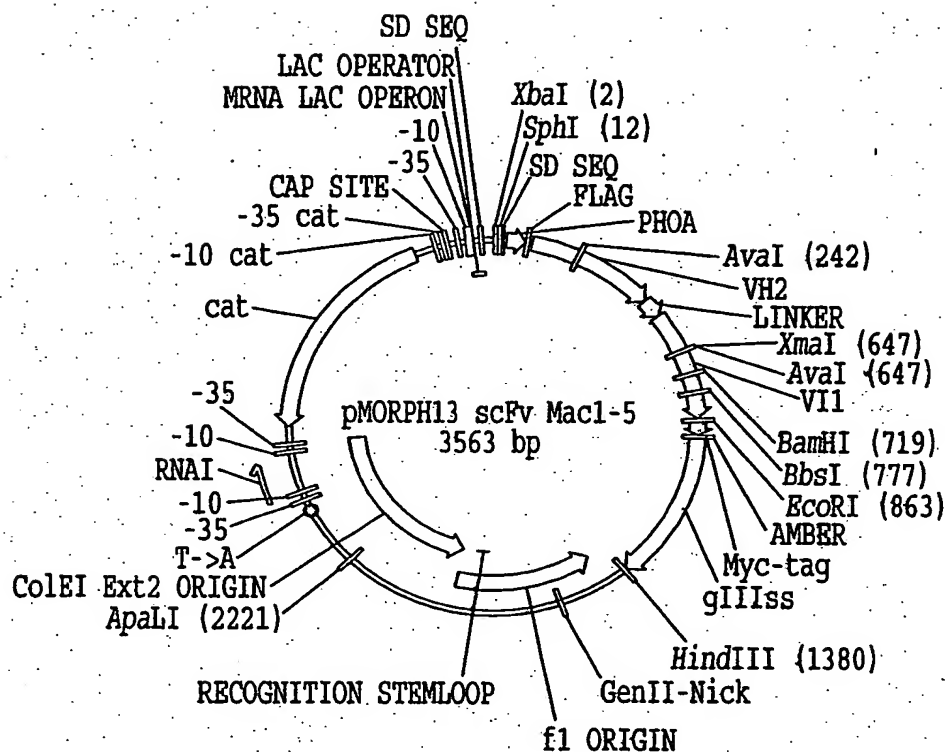


FIG. 4C

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FIG. 4D

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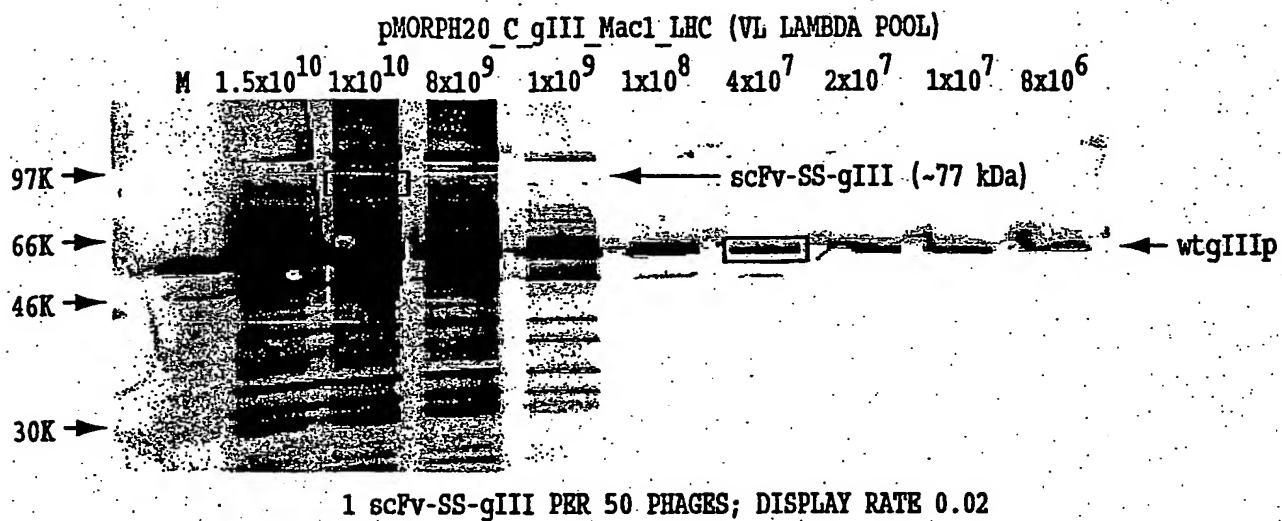


FIG. 5A

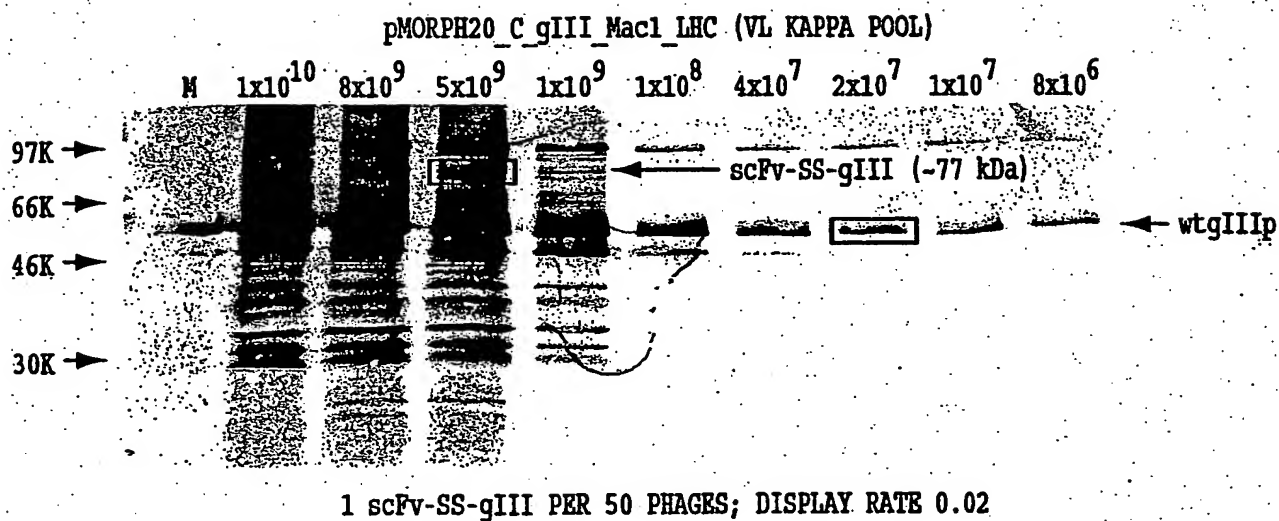


FIG. 5B

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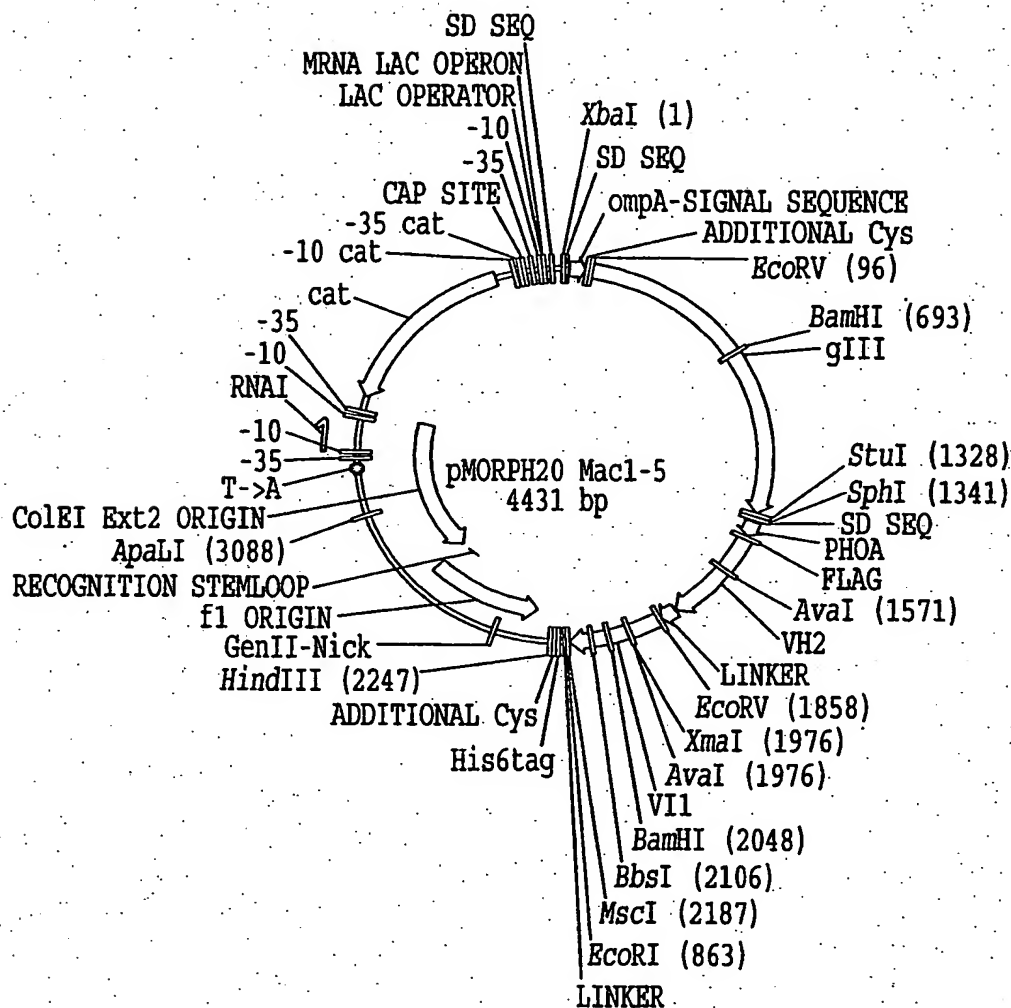


FIG. 5C

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FIG. 5D

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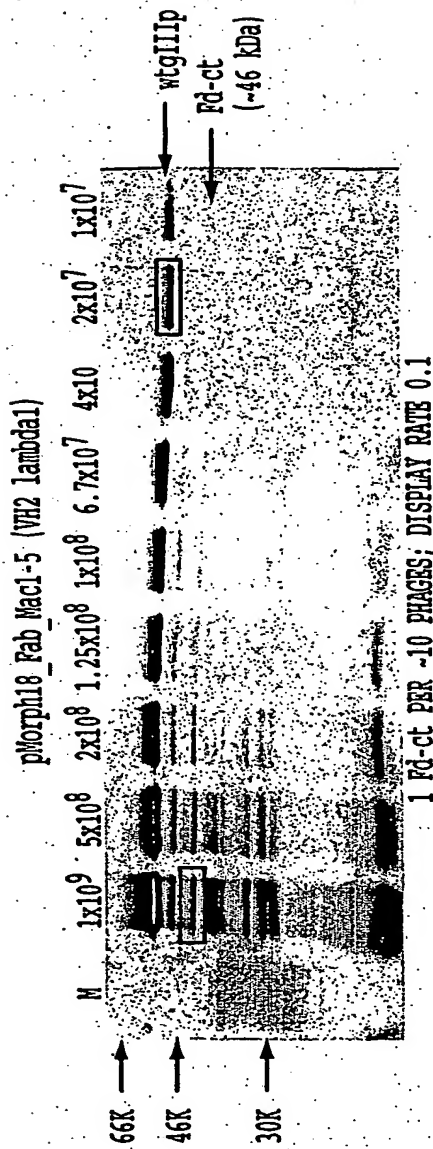


FIG. 6A

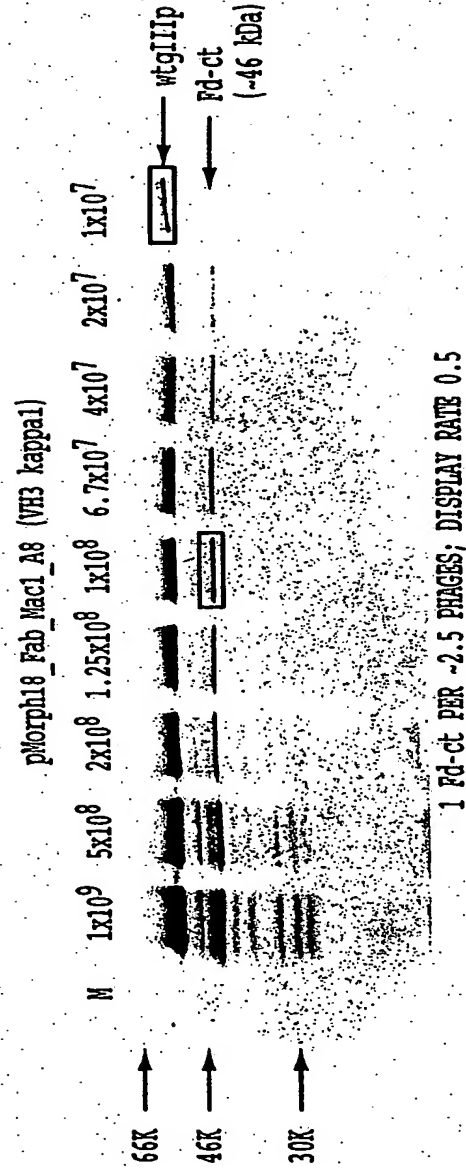


FIG. 6B

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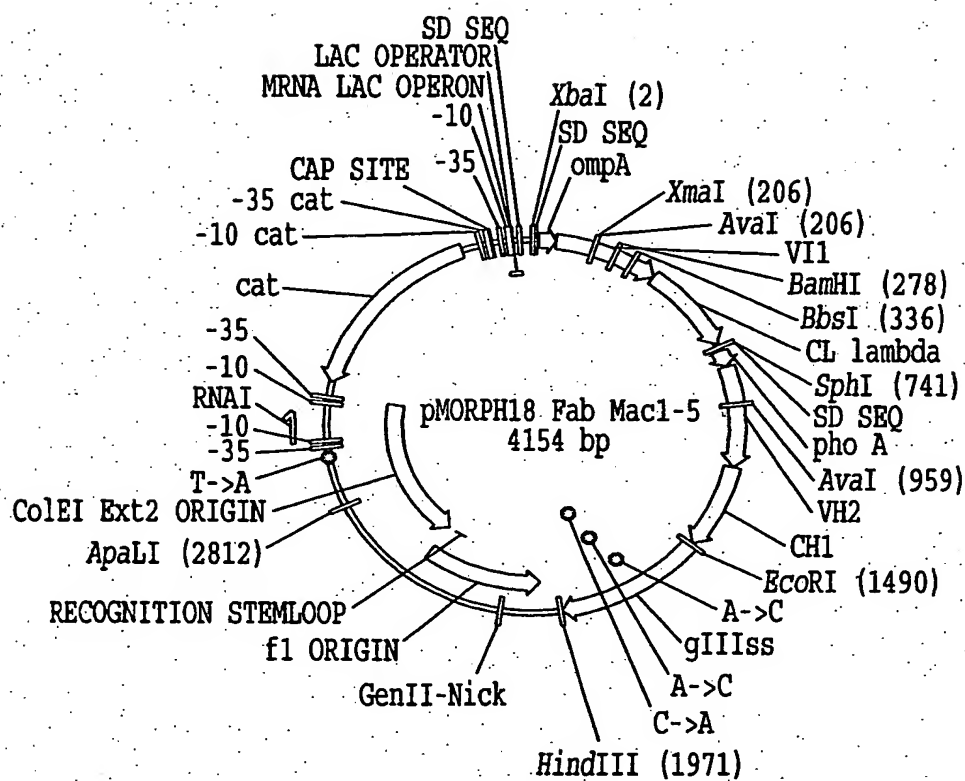


FIG. 6C

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FIG. 6D

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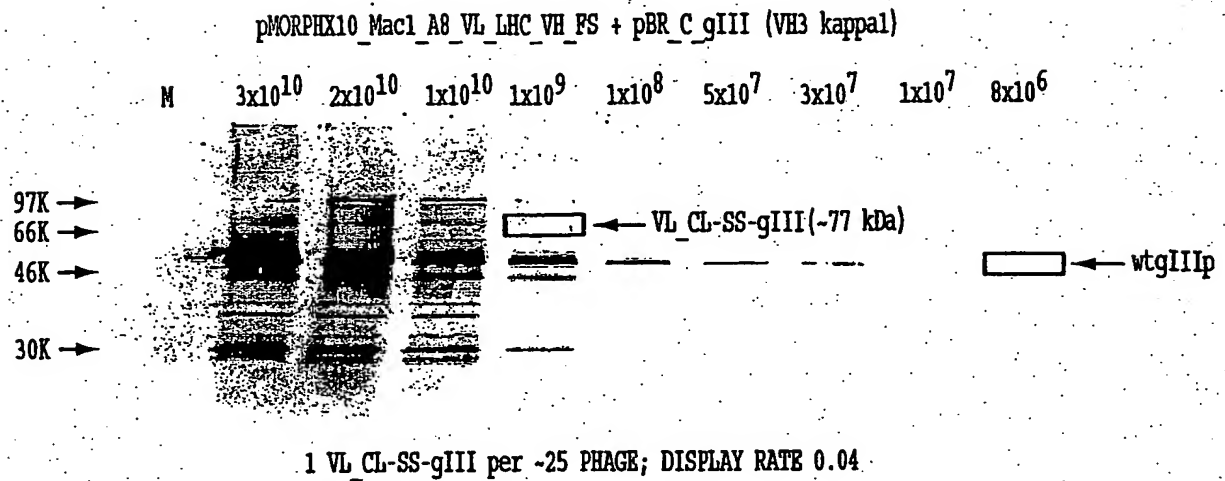


FIG. 7A

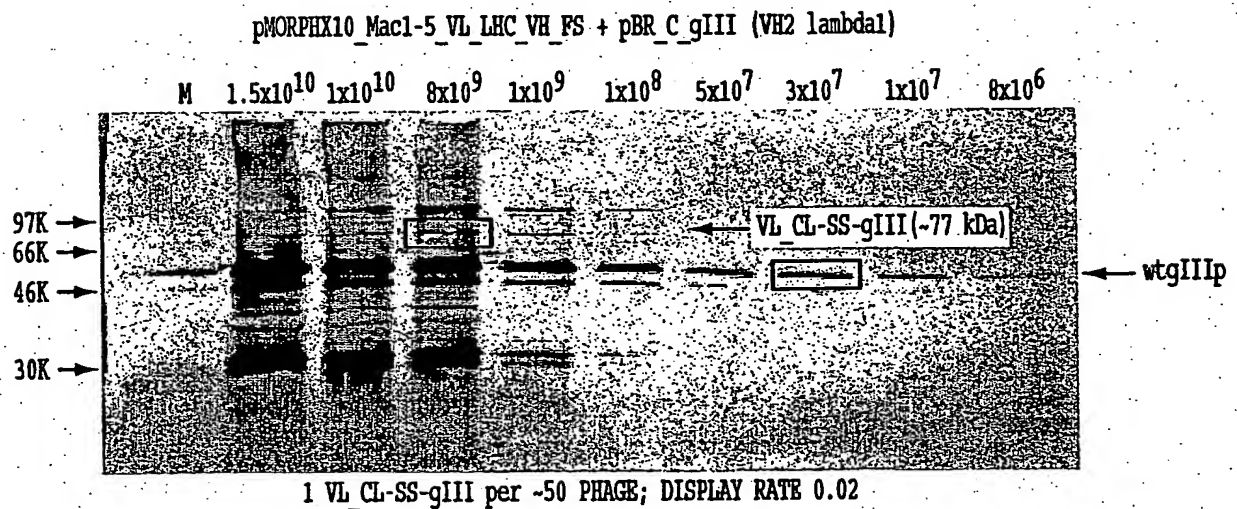


FIG. 7B

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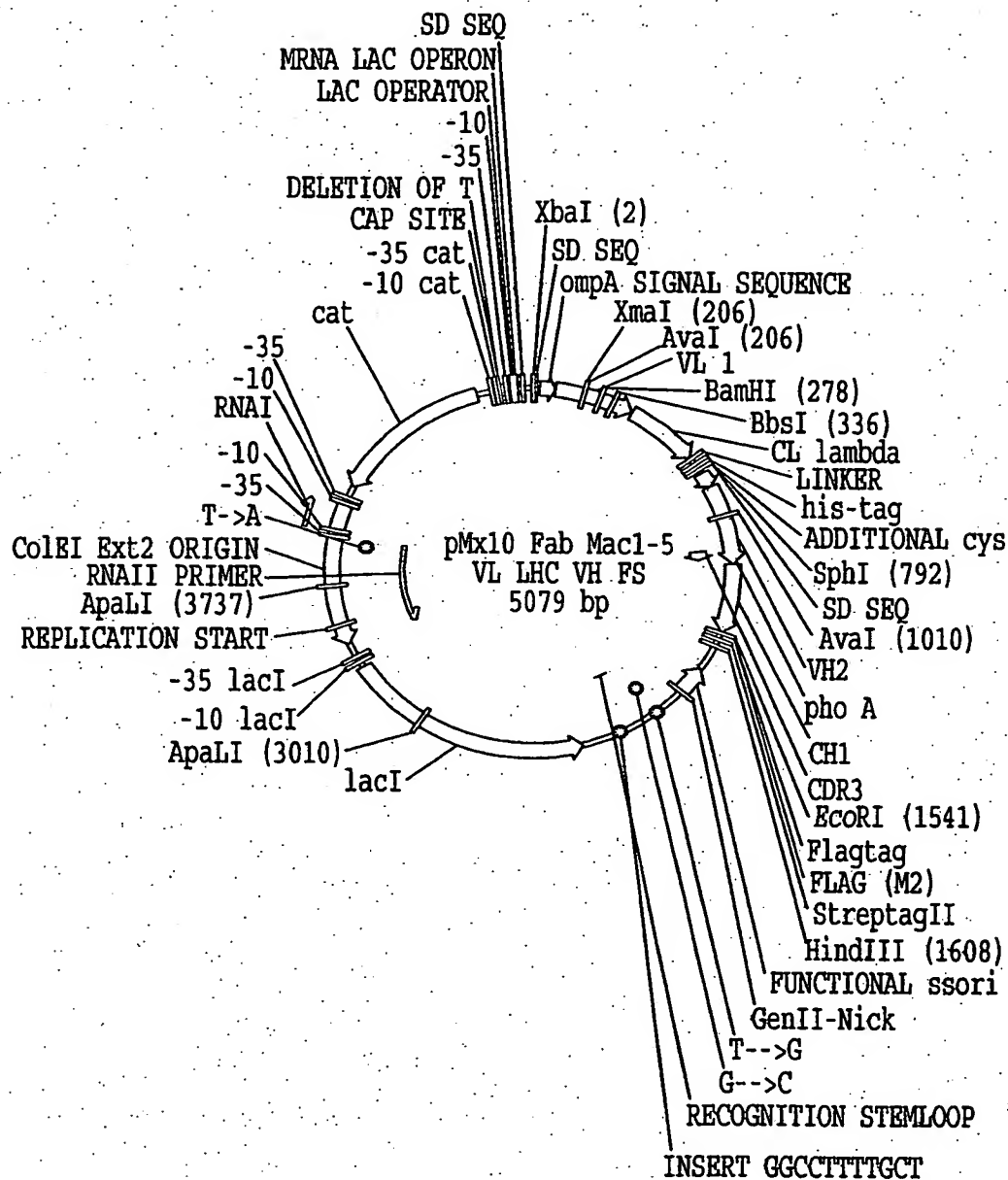


FIG. 7C

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FIG. 7D

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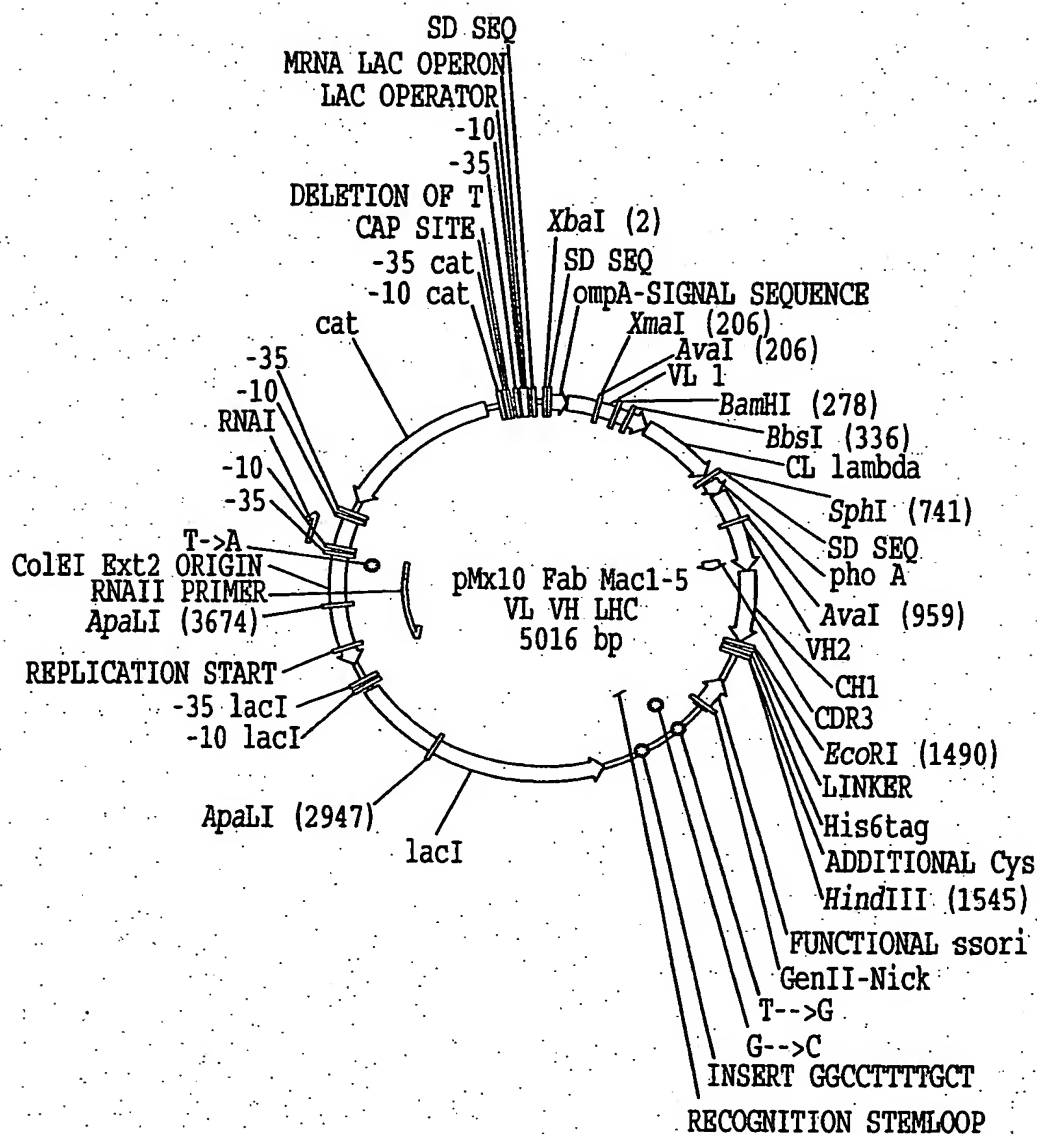


FIG. 7E

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FIG. 7F

SUBSTITUTE SHEET (RULE 26)

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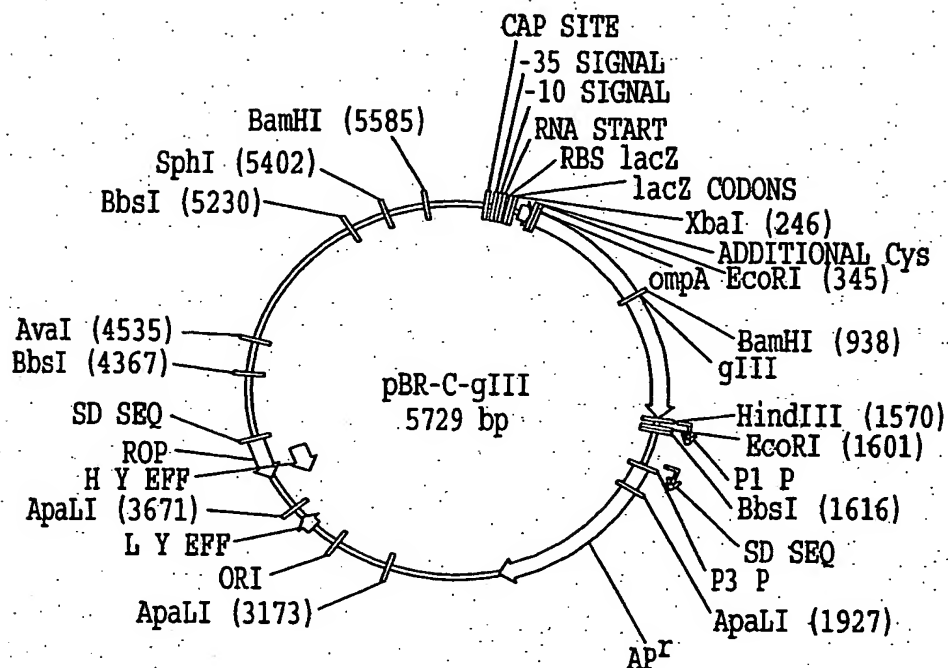


FIG. 7G

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FIG. 7H-1

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FIG. 7H-2

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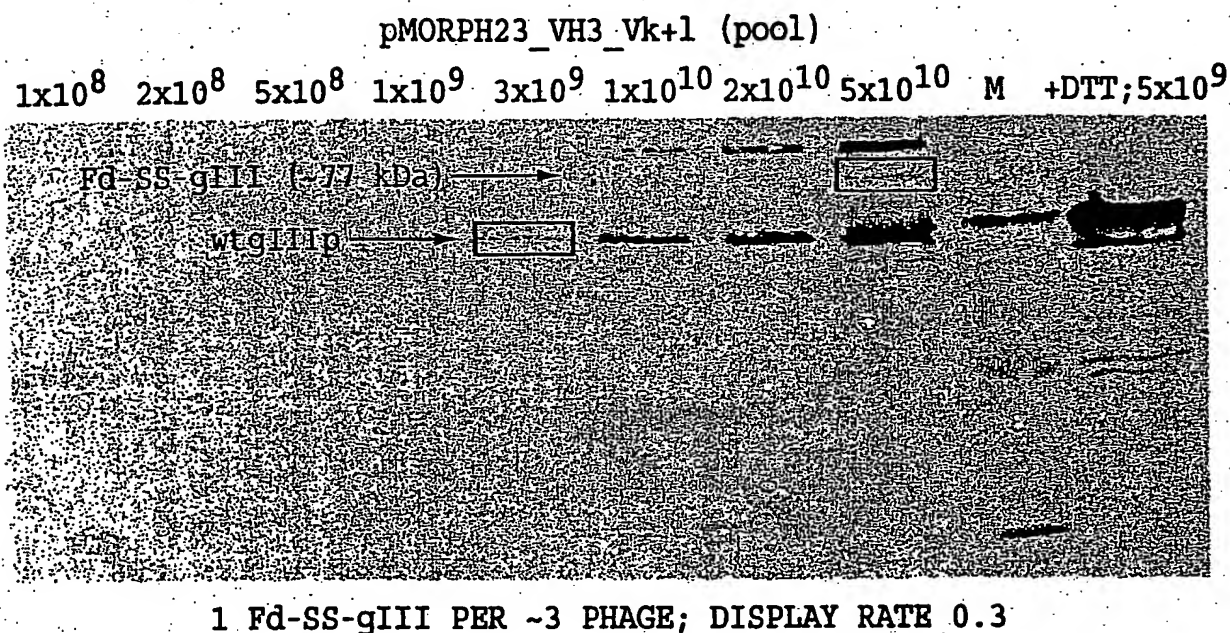


FIG. 8A

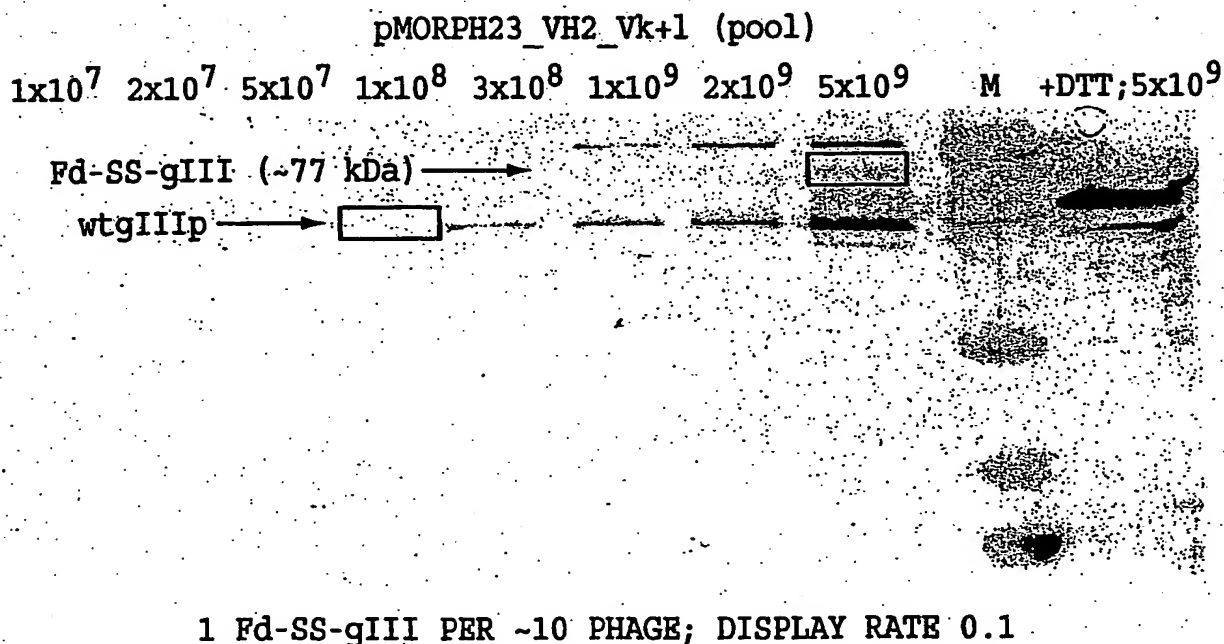


FIG. 8B

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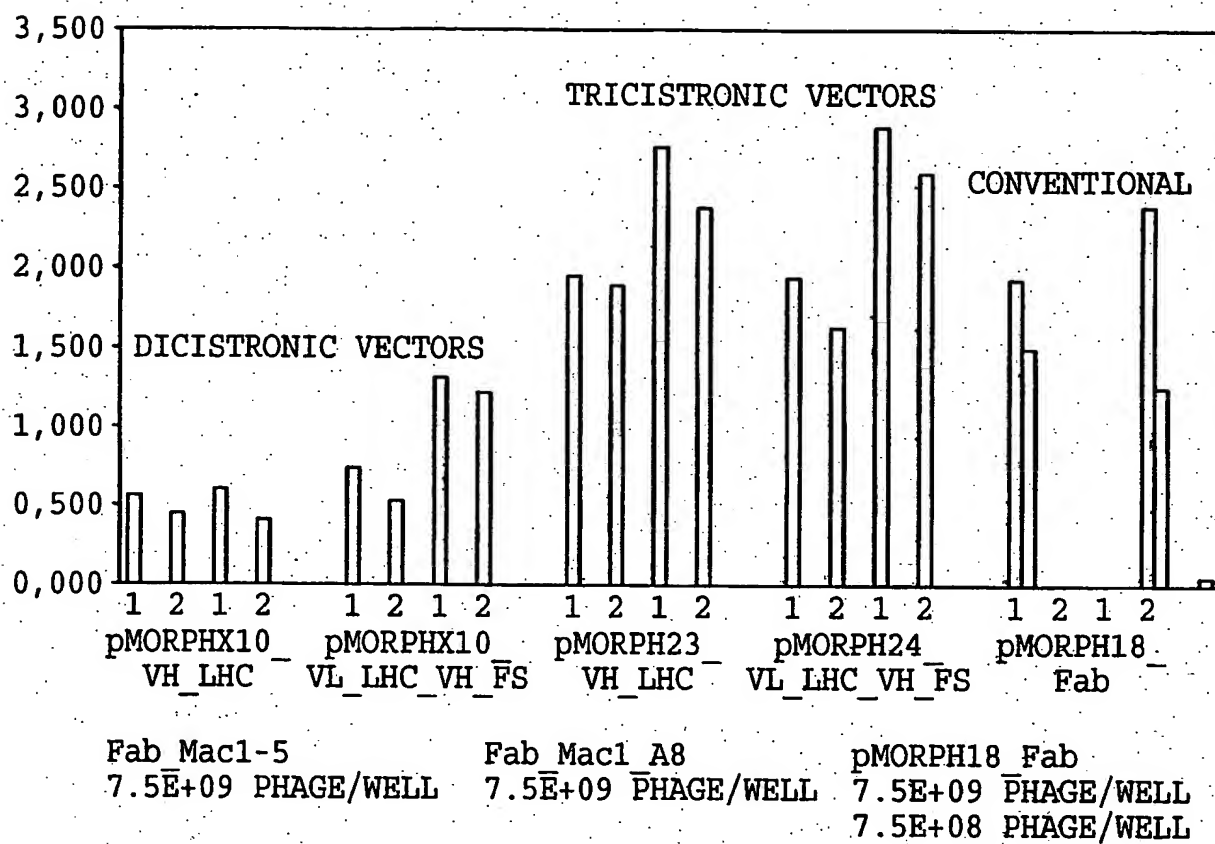


FIG. 9